

*TECTASQUILLA LUTZAE*, NEW GENUS AND SPECIES  
(CRUSTACEA: STOMATOPODA: LYSIOSQUILLIDAE)  
FROM THE GULF OF MEXICO

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*Abstract.*—A new genus and species of stomatopod is described based on two specimens collected from the western North Atlantic and the eastern Gulf of Mexico. *Tectasquilla lutzae* can be distinguished from other lysiosquilloids by the combination of the following characters: 1) eyes covered by rostral plate; 2) mandibular palp and five epipods present; 3) dactylus of raptorial claw with four teeth; 4) proximal portion of outer margin of uropodal endopod without strong fold; and 5) telson with false eave.

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In a recent faunal survey of the eastern Gulf of Mexico, a unique stomatopod specimen was collected. On examination, it became apparent that the specimen represented a new species. While similar to *Heterosquilloides*, the new species was difficult to place in any described genus, therefore a new genus is diagnosed for it.

*Tectasquilla*, new genus

*Diagnosis.*—Size moderate, maximum length at least 70 mm. Eye cornea bilobed. Rostral plate elongate, with apical spine. Antennal protopod with 1 mesial and 2 ventral papillae. Exposed thoracic somites lacking longitudinal carinae; eighth thoracic somite with median ventral keel. Mandibular palp and 5 epipods present. Raptorial claw, dactylus with 4 teeth. Endopods of pereopods of 2 articles, distal article elongate. Abdomen depressed, compact, smooth, unarmed except on sixth somite; sixth abdominal somite with spines at posterolateral angles, with ventrally directed process anterior to each uropod. Telson broader than long, with false eave; marginal armature on either side of midline consisting of row of slender submedian denticles, movable submedian tooth, 2 intermediate denticles, 1 intermediate tooth, 1 lateral denticle and 1 lateral tooth. Uropod, proximal article with dorsal spine; proximal article of exopod with slender movable spines on outer margin and setae on rounded lobe on inner distal margin; endopod without strong proximal fold on outer margin; basal prolongation produced into 2 spines, triangular in cross section, inner longer.

*Type-species.*—*Tectasquilla lutzae* new species

*Remarks.*—*Tectasquilla* contains only the type-species.

*Tectasquilla* only superficially resembles the nannosquillid genera which have a false eave on the telson. *Tectasquilla* can be easily differentiated from these genera by having a bilobed cornea, the mandible with palp, papillae on the antennal protopod, the endopods of pereopods slender, and a uropodal endopod without strong proximal fold on the outer margin.

Of the lysiosquillid genera, *Tectasquilla* most closely resembles *Heterosquilla* Manning, 1963, and *Heterosquilloides* Manning, 1966. *Tectasquilla* will key out

as *Heterosquilla* in Manning's (1969) key to American Lysiosquillidae. In 1980, Manning elevated the subgenus *Heterosquilloides* to generic rank. *Tectasquilla* can be easily distinguished from *Heterosquilla* and *Heterosquilloides* by having: 1) eyes covered by the rostral plate; 2) 5 epipods present; 3) one mesial antennal papilla; 4) dactylus of raptorial claw with 4 teeth; and 5) telson with false eave.

*Etymology*.—The name is derived from the Latin *tectus*, meaning "covered, roof" alluding to the false eave on the telson, and the name *Squilla*. The gender is feminine.

*Tectasquilla lutzae*, new species

Figs. 1, 2

*Material examined*.—Eastern Gulf of Mexico, Bureau of Land Management station 2529, sample 2529191880208; 29°55'55"N, 86°06'29"W; capetown dredge; 38 m; 8 Feb 1978; T. S. Hopkins coll; 1 ♂ (holotype) USNM 204717.—Atlantic Ocean off Florida, R/V *Delaware II* station 23; 31°55'N, 79°43'W; tumbler dredge; 36–38 m; 22 Jun 1982; W. G. Lyons collector, 1 (paratype, anterior fragment) USNM 204716.

*Description*.—Eye elongate; cornea bilobed, set slightly obliquely on stalk; ocular scales fused into rectangular plate with median notch; eyes reaching beyond middle of antennular peduncle.

Antennular peduncle short, about  $\frac{1}{3}$  length of carapace; antennular process with broad, blunt, anteriorly directed spines. Antennal scale slender, about  $\frac{1}{3}$  length of carapace; antennal protopod with 1 mesial and 2 ventral papillae. Rostral plate subrectangular, elongate, extending beyond eyes; apical spine present. Mandible palp 3 articles.

Raptorial claw, dactylus with 4 teeth, outer margin with basal notch; propodus with 4 movable spines proximally, proximal by far the longest, second and third spines approximately same length and half length of first, fourth spine half length of third spine; dorsal ridge of carpus poorly defined, terminating in blunt projection; merus much longer than ischium, both unarmed.

Lateral process of fifth thoracic somite blunt lobe, directed ventrally; lateral processes of sixth and seventh somites rounded; eighth thoracic somite with median ventral keel as low conical projection; distal article of endopods of walking legs elongate, most slender on last leg; basal article of walking legs unarmed.

Abdomen depressed, compact, unarmed except on posterolateral angles of sixth somite; sixth somite with broad, blunt projection anterior to articulation of uropods; sixth somite with pair of broad low carinae, parallel to lateral margin and terminating in blunt lobe.

Telson thick, with false eave, nearly twice as broad as long; ventral surface with strong spine on midline posterior to anus; 1 pair of tubercles present on anterolateral dorsal surface; false eave with median trilobed prominence bearing 2 carinae, one carina terminating with 1 spine, the other carina with 2 spines; 2 prominences laterally, each terminating in broad acute lobes; 7 to 10 spines on each side of midline between false eave and true posterior margin and between middle 2 prominences of false eave and submedian and intermediate teeth of posterior margin of telson; marginal armature of telson consists of row of 5 submedian denticles, inner denticle much the smallest, outer 2 denticles movable;

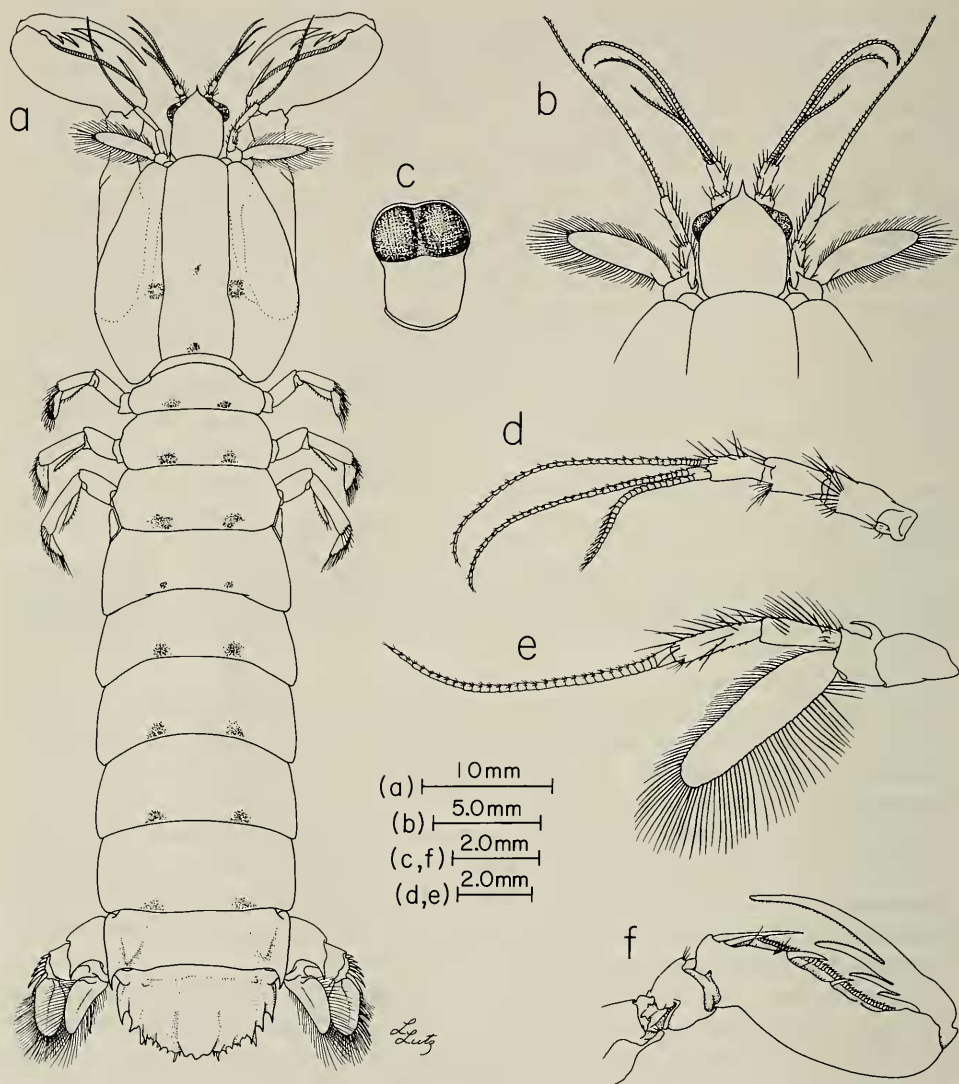


Fig. 1. *Tectasquilla lutzae*, holotype. a, Dorsal view; b, Anterior part of body; c, Eyestalk; d, Antennule, ventral view; e, Antenna, dorsal view; f, Claw, medial view. Scales as indicated.

movable submedian tooth; 2 intermediate denticles; 1 intermediate tooth; 1 lateral denticle; and 1 lateral tooth.

Uropod, basal article segment thick, outer dorsal carina broad, inner dorsal carina terminating in strong spine, basal prolongation produced into 2 spines, triangular in cross section, inner spine longer; proximal article of exopod swollen dorsally, with row of 7 slender spines, distal spine not reaching middle of distal segment of exopod, ventrally with 1 broad spine distoventrally, inner margin with broad lobe fringed with setae; distal article of exopod nearly twice length of proximal article; endopod elongate, inner margin slightly concave, outer margin convex, proximal portion of outer margin curled dorsally (not folded).

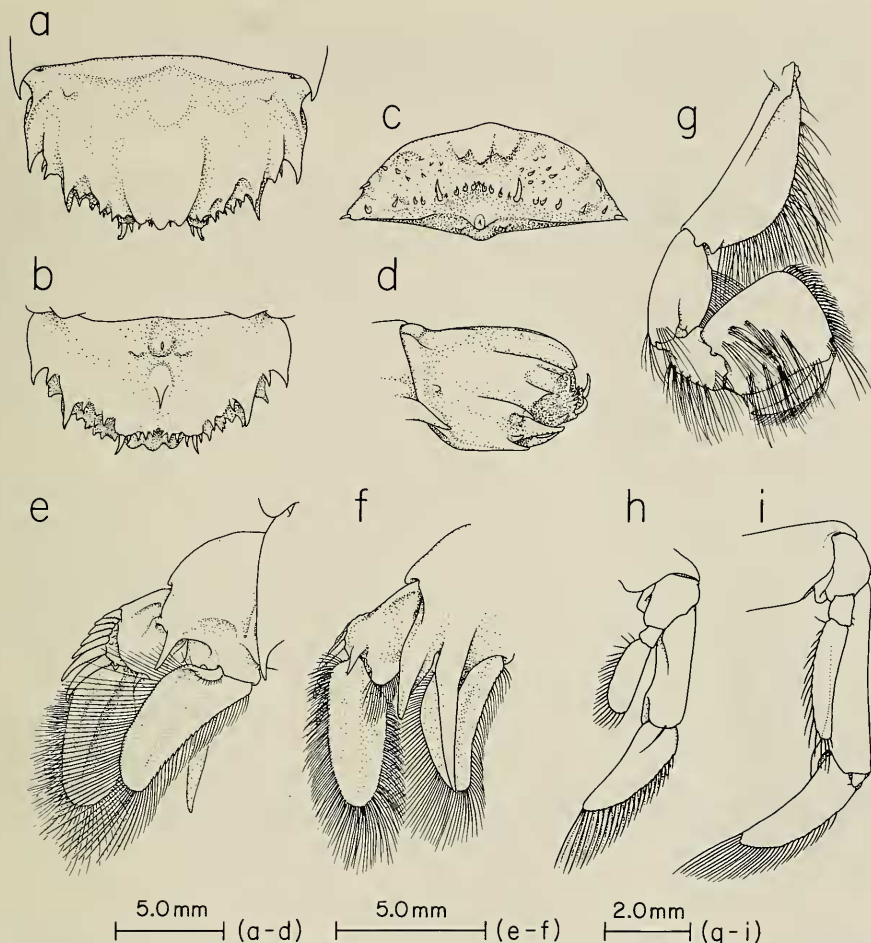


Fig. 2. *Tectasquilla lutzae*, holotype. a, Telson, dorsal view; b, Telson, ventral view; c, Telson, posterior view; d, Telson, lateral view; e, Uropod, dorsal view; f, Uropod, ventral view; g, Maxilliped 5, lateral view; h, Walking leg 1, medial view; i, Walking leg 3, medial view. Scales as indicated.

**Remarks.**—The paratype is a fragment consisting of the anterior part of body from rostral plate to fifth thoracic somite plus a part of the sixth somite and right first walking leg.

**Etymology.**—This species is named for Ms. Linda B. Lutz, who has illustrated several crustaceans for us.

**Measurements.**—Male, holotype, total length 73 mm; carapace length 16 mm; cornea width 2.2 mm; rostral plate length 5.6 mm, width 4.0 mm; fifth abdominal somite width 15.8 mm; telson length 3.5 mm, width 6.1 mm. Paratype, carapace length 17.8 mm; cornea width 2.6 mm; rostral plate length 6.3 mm, width 4.6 mm.

**Color.**—In life, body not heavily pigmented; overall color straw (light red-brown) with scattered yellow to tan chromatophores. Rostral plate heavily pigmented, dark brown to black. Carapace with 2 darker bands, anterior margin of



brown broad V-shaped band, laterally indistinct. Posterior margin of carapace darker.

Four pigmented areas on posterior half of carapace (Fig. 1a) lateral pair of spots less distinct than spots on midline. Lateral spots with unpigmented or light yellow semicircular areas centrally.

Posterior 3 thoracic somites and anterior 5 abdominal somites with paired pigmented spots dorsally (Fig. 1a), and with more diffuse pigmented area laterally. Sixth abdominal somites and telson without pigment spots.

Antennal scale with distal pigment spot. Propodus of maxillipeds darker pigmented than body, dactylus with few chromatophores. Raptorial claw, dactylar margins and teeth pale yellow-orange, central region pigmented like body; propodus yellow-orange distally, opposable margin also yellow-orange; walking legs bases only slightly darker than body, distal article much lighter than body, setae yellow. Uropods pigmented like body.

*Discussion.*—In *T. lutzae*, the number of intermediate denticles is interpreted to be two but might be three. A rounded projection occurs between and just dorsal to the intermediate denticles. Since the posterior margin of the telson is not sharply defined in this area, this projection may in fact be the third denticle. The number of intermediate denticles present is an important character since *Heterosquilla* has two intermediate denticles and *Heterosquilloides* has four intermediate denticles. With respect to the other characters listed by Manning (1969), *Tectasquilla* appears closer to *Heterosquilloides* than *Heterosquilla*.

*Tectasquilla lutzae* appears most similar to *Heterosquilloides mccullochae* (Schmitt, 1940). It shares a similar color pattern, an ornate posterior telsonal margin, four teeth on the dactylus of the claw, and five epipods. In addition to the differences noted above, *T. lutzae* can be distinguished from *H. mccullochae* by the presence of three not four antennal papillae.

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#### Literature Cited

- Manning, R. B. 1963. Preliminary revision of the genera *Pseudosquilla* and *Lysiosquilla* with description of six new genera (Crustacea: Stomatopoda).—*Bulletin of Marine Science of the Gulf and Caribbean* 13(2):308–328.
- . 1966. Notes on some Australian and New Zealand stomatopod Crustacea, with an account of the species collected by the Fisheries Investigation ship *Endeavour*.—*Records of the Australian Museum* 27(4):79–137.
- . 1969. Stomatopod Crustacea of the western Atlantic.—*Studies in Tropical Oceanography* (Miami) No. 8, 380 pp.

- . 1980. The superfamilies, families, and genera of recent stomatopod Crustacea, with diagnoses of six new families.—*Proceedings of the Biological Society of Washington* 93(2):362–372.
- Schmitt, W. L. 1940. The stomatopods of the west coast of America based on collections made by the Allan Hancock Expeditions, 1933–1938.—*Allan Hancock Foundation Pacific Expeditions* 5(4):129–225.

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